REMARKS

Claims 1-8 are now pending in the application. Pending claims 1-8 stand rejected under 35 U.S.C. § 103(a). The forgoing amendments and following remarks are considered by Applicants to overcome each rejection raised by the Examiner and to place the application in condition for allowance. An early Notice of Allowance is therefore requested.

I. Rejection Of Pending Claims 1 and 4 Under Double Patenting

The Examiner rejects claims 1 and 4 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 3 of U.S. Patent No. 6,783,223 in view of Pourreau et al., U.S. Patent No. 6,462,117, issued August 31, 2004 ("Pourreau"). The Examiner claims that although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter claimed in the instant application is disclosed in the U.S. Patent and is covered by the U.S. Patent, except that the water based ink includes potassium p-tert-butylbenzoate. The Examiner argues that deficiency is cured by Pourreau because it would have been obvious to one of ordinary skilled in the art at the time of the invention to modify the composition of U.S. Patent No. 6,782,223 by the teachings of Pourreau in order to have an ink with negligible photochemical reactivity and favorable evaporation rates, which gives rust preventing coating on the surface.

In response, solely to advance the prosecution of the present application, Applicants are submitting herewith a Terminal Disclaimer. Withdrawal of the double patenting rejection is respectfully requested.

II. Rejection Of Pending Claims 1 and 4 Under Double Patenting

The Examiner rejects claims 1 and 4 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 3 of U.S. Patent No. 6,783,223 in view of Moser, U.S. Patent No. 2,965,511, issued December 20, 1960 ("Moser"). The Examiner claims that although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter claimed in the instant application is disclosed in the U.S. Patent and is covered by the U.S. Patent, except that the water based ink includes potassium p-tert-butylbenzoate. The Examiner argues that deficiency is cured by Moser because it would have been obvious to one of ordinary skilled in the art at the time of the invention to modify the composition of U.S. Patent No. 6,782,223 by the teachings of Moser in order to have an ink with good coating property, which gives rust preventing coating on the surface.

In response, solely to advance the prosecution of the present application, Applicants are submitting herewith a Terminal Disclaimer. Withdrawal of the double patenting rejection is respectfully requested.

II. Rejection Of Pending Claims 1-8 Under 35 U.S.C. § 103

Claims 1-8 stand as rejected under 35 U.S.C. § 103(a) as being unpatentable over Kimura et al., U.S. Patent No. 5,854,307, issued December 29, 1998 ("Kimura") in view of Pourreau et al., U.S. Patent No. 6,462,117, issued August 31, 2004 ("Pourreau"). This rejection is traversed and believed overcome in view of the following discussion.

A. Relevant Law

In order to establish a prima facie case of obviousness, according to section 706.02(j) of the Manual of Patent Examining Procedure (MPEP), three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure.

B. Summary of Cited References

Kimura teaches a water-based ink composition comprising coloring material particles obtained by causing a dye to be adsorbed on or bonded to fine particles or an inorganic colloidal substance, and an aqueous solution of a water-soluble polymer dispersing the coloring material particles therein, wherein the polymer chains of the polymer in the composition undergo dissociation or association by its temperature change or pH change. See Abstract.

Pourreau teaches a method of preparing coating compositions, including inks comprising using as a coating component an organic solvent having negligible photochemical reactivity, and also having an evaporation rate of not more than about 5 times that of n-butyl acetate. See Abstract.

C. Argument

The Examiner acknowledges that Kimura does not disclose water base ink for ink-jet recording that includes potassium p-tert-butylbenzoate. The Examiner asserts that Pourreau cures this deficiency of Kimura. The Examiner states that Pourreau reference teaches that inks that contains solvents having a negligible photochemical reactivity and favorable evaporation rate, which include p-tert-butylbenzoate. The Examiner then concludes that it would have been obvious to one of ordinary skill in the art to incorporate the potassium p-tert-butylbenzoate in the water-based ink composition of Kimura. Applicants respectfully disagree with the Examiner's analysis.

Independent claim 1 claims a water base ink for ink-jet recording usable for an ink-jet recording apparatus provided with an ink-jet head in which at least a part of an ink flow passage is formed of nickel or a nickel alloy, the water base ink for ink-jet recording comprising: **potassium p-tert-butylbenzoate**; a coloring agent which is dispersible or soluble in water; water; and a water-soluble organic solvent. Independent claim 4 refers to an ink-jet recording apparatus which uses the water base ink for ink-jet recording where an ink contains **potassium p-tert-butylbenzoate**, a coloring agent which is dispersible or soluble in water, water, and a water-soluble organic solvent; an ink tank which accommodates the ink; and an ink-jet head which jets the ink supplied from the ink tank and which is provided with an ink flow passage, at least a part of the ink flow passage being formed of nickel or a nickel alloy.

Applicants respectfully submit that the Examiner has not established the three criteria required by law to support a sustainable obviousness rejection. As such, Applicants consider this rejection to stand in error.

As to the first criterion, one of ordinary skill in the art would find neither a suggestion nor motivation in Kimura and Pourreau to modify the water based ink disclosed therein to arrive at the invention defined in independent claim 1 and claim 4. Neither Kimura nor Pourreau teach or suggest a water base ink for ink-jet recording usable for an ink-jet recording apparatus provided with an ink-jet head in which at least a part of an ink flow passage is formed of nickel or a nickel alloy where the water base ink for ink-jet recording includes **potassium p-tert-butyl-benzoate**. Applicants agree with the Examiner that Kimura does not disclose or teach the water based ink including potassium p-tert-butyl-benzoate as claimed by the Applicants. However, Pourreau does not cure this deficiency of Kimura. The Examiner states that Pourreau reference teaches that ink that contains solvents having a negligible photochemical reactivity and favorable evaporation rate, which include p-tert-butyl-benzoate. The Pourreau reference does not specifically teach a water base ink for ink-jet recording that includes **potassium p-tert-butyl-benzoate**. In the present invention, the addition of the potassium p-tert-butyl-benzoate to the water base ink for ink-jet recording serves as a rust proofing or rust preventing agent. See Paragraph [0010]. The inventors have found "that when potassium p-tert-butyl-benzoate is added to the water base ink for ink-jet recording, then potassium p-tert-butyl-benzoate forms a dense synthetic coating on the surface of the metal composed of nickel or the alloy containing nickel, and the synthetic coating behaves as a protective film to suppress the corrosion and the dissolution." See Paragraph [0010]. In contrast, Pourreau discloses an ink composition that includes solvents not a rust preventing agent. Therefore, contrary to the Examiner's assertion, there is no suggestion or motivation given to one skilled in the art to add the potassium p-tert-butyl-benzoate to the water-based ink composition of Kimura to realize the water-based ink for ink-jet recording of the present invention that does not deteriorate a metal by corrosion and or dissolution.

Turning to the second criterion, there must be a reasonable expectation that the proposed combination or modification will be successful. There is no reasonable expectation that the water-based ink of Kimura, once modified to include the tert-butyl-benzoate of Pourreau, would be successful. Thus, the second criteria for a reasonable expectation of success cannot be satisfied as well.

Lastly, addressing the third criterion, the prior art references, when combined, must teach or suggest all the claim limitations as is required in independent claim 1 and independent claim 4. Kimura and Pourreau alone or in combination do not disclose a water base ink for ink-jet recording usable for an ink-jet recording apparatus provided with an ink-jet head in which at least a part of an ink flow passage is formed of nickel or a nickel alloy where the water base ink for ink-jet recording includes **potassium p-tert-butyl-benzoate** or an ink-jet recording apparatus which uses the water base ink for ink-jet recording where an ink contains **potassium p-tert-butylbenzoate**, a coloring agent which is dispersible or soluble in water, water, and a water-soluble organic solvent; an ink tank which accommodates the ink; and an ink-jet head which jets the ink supplied from the ink tank and which is provided with an ink flow passage, at least a part of the ink flow passage being formed of nickel or a nickel alloy. The Examiner has identified the recited claim elements, i.e., for example, coloring agent, water, solvent in the cited references but, under the law, such an indiscriminate combination is not sufficient to establish obviousness of the invention. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the cited art, Kimura and Pourreau, and not be based on Applicants' disclosure. As discussed above, the Examiner has not shown that the cited art provides suggestion or motivation to one of ordinary skill in the art to make the claimed combination and in so making one would have the reasonable expectation of success. Stated otherwise, lacking a suggestion or motivation and reasonable expectation of success, Applicants believe that the Examiner selected these references with the help of hindsight[1].

In view of the foregoing, Applicants respectfully submit that the Examiner has not established a prima facie case of obviousness of claim 1 or claim 4 under 35 U.S.C. § 103(a). As a result, independent claims 1 and 4 are considered by Applicants to define patentable subject matter.

Applicants also submit that the Examiner has not established a prima facie case of obviousness of claim 1 or claim 4 under 35 U.S.C. § 103(a). In particular, rejected claims 2 and 3, by virtue of their dependency from claim 1, respectively, are similarly considered by Applicants to patentably define itself over the cited references. Also, rejected claims 5-8, by virtue of their dependency from claim 4, respectively, are similarly considered by Applicants to patentably define itself over the cited references.

III. Rejection Of Pending Claims 1-8 Under 35 U.S.C. § 103

Claims 1-8 stand as rejected under 35 U.S.C. § 103(a) as being unpatentable over Kimura et al., U.S. Patent No. 5,854,307, issued December 29, 1998 ("Kimura") in view of Moser, U.S. Patent No. 2,965,511, issued December 20, 1960 ("Moser"). This rejection is traversed and believed overcome in view of the following discussion.

A. Relevant Law

In order to establish a prima facie case of obviousness, according to section 706.02(j) of the Manual of Patent Examining Procedure (MPEP), three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

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[1] Use of hindsight in the selection of references to establish a case of obviousness is improper. *In re Gorman,* 18 USPQ2d 1885 (Fed. Cir. 1991).

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure.

B. Summary of Cited References

Kimura is discussed above.

Moser teaches phthalocyanine pigment compositions containing an aluminum tertiary butyl benzoate and methods for preparing such pigment compositions. See Col. 1, lines 14-20.

C. Argument

The Examiner acknowledges that Kimura does not disclose water base ink for ink-jet recording that includes potassium p-tert-butylbenzoate. The Examiner asserts that Moser cures this deficiency of Kimura. The Examiner states that the Moser reference teaches that the ink that contains solvents having a good coating property, which include p-tert-butylbenzoate. The Examiner then concludes that it would have been obvious to one of ordinary skill in the art to incorporate the potassium p-tert-butylbenzoate in an amount of 0.1 to 1.0% by weight, since it has been held that it is not inventive to discovering an optimum value or workable ranges by routine experimentation. Applicants respectfully disagree with the Examiner's analysis.

As stated above, independent claim 1 claims a water base ink for ink-jet recording usable for an ink-jet recording apparatus provided with an ink-jet head in which at least a part of an ink flow passage is formed of nickel or a nickel alloy, the water base ink for ink-jet recording comprising: **potassium p-tert-butylbenzoate**; a coloring agent which is dispersible or soluble in water; water; and a water-soluble organic solvent. Independent claim 4 refers to an ink-jet recording apparatus which uses the water base ink for ink-jet recording where an ink contains **potassium p-tert-butylbenzoate**, a coloring agent which is dispersible or soluble in water, water, and a water-soluble organic solvent; an ink tank which accommodates the ink; and an ink-jet head which jets the ink supplied from the ink tank and which is provided with an ink flow passage, at least a part of the ink flow passage being formed of nickel or a nickel alloy.

Applicants respectfully submit that the Examiner has not established the three criteria required by law to support a sustainable obviousness rejection. As such, Applicants consider this rejection to stand in error.

As to the first criterion, one of ordinary skill in the art would find neither a suggestion nor motivation in Kimura and Moser to modify the water based ink disclosed therein to arrive at the invention defined in independent claim 1 and claim 4. Neither Kimura nor Moser teach or suggest a water base ink for ink-jet recording usable for an ink-jet recording apparatus provided with an ink-jet head in which at least a part of an ink flow passage is formed of nickel or a nickel alloy where the water base ink for ink-jet recording includes **potassium p-tert-butyl-benzoate**. Applicants agree with the Examiner that Kimura does not disclose or teach the water based ink including potassium p-tert-butyl-benzoate as claimed by the Applicants. However, Moser does not cure this deficiency of Kimura. Moser teaches a phthalocyanine pigment compositions containing an aluminum tertiary butyl benzoate. See Col. 1, lines 15-20. The Moser reference does not specifically teach a water base ink for ink-jet recording that includes **potassium p-tert-butyl-benzoate**. In the present invention, the addition of the potassium p-tert-butyl-benzoate to the water base ink for ink-jet recording serves as a rust proofing or rust preventing agent. See Paragraph [0010]. The inventors have found "that when potassium p-tert-butyl-benzoate is added to the water base ink for ink-jet recording, then potassium p-tert-butyl-benzoate forms a dense synthetic coating on the surface of the metal composed of nickel or the alloy containing nickel, and the synthetic coating behaves as a protective film to suppress the corrosion and the dissolution." See Paragraph [0010]. In contrast, Moser discloses a phthalocyanine pigment compositions that includes solvents not a rust preventing agent. Therefore, contrary to the Examiner's assertion, there is no suggestion or motivation given to one skilled in the art to add the potassium p-tert-butyl-benzoate to the water-based ink composition of Kimura to realize the water-based ink for ink-jet recording of the present invention that does not deteriorate a metal by corrosion and or dissolution.

In addition, Moser teaches the use of aluminum tertiary butyl benzoate so as to prevent a phthalocyanine pigment from flocculating in an organic vehicle (See Column 1, Lines 27-72). As a result, Moser does not teach or suggest potassium p-tertiary buthylbenzoate as defined in claims 1 and 4. Furthermore, it is respectfully submitted that there is no motivation to combine the teachings of Moser and Kimura in view of suppressing the corrosion of the nickel alloy.

Moreover, the rust-proofing or rust-preventing mechanism is generally classified by oxide coating forming type, precipitated coating forming type and adsorbed coating forming type. In the claimed invention, as provided in specification (paragraph 0010), potassium p-tertiary-buthylbenzoate used in the present application corresponds to the adsorbed coating forming type and serves as a rust-proofing or rust-preventing agent by being adsorbed to the nickey alloy. In contrast, Moser teaches that aluminum tertiary buthybenzoate is intimately admixed with a phthalocyanine pigment to prevent the flocculating of the pigment (See Column 2, Lines 13-18). As a result, the aluminum tertiary butyl benzoate, which is admixed with the pigment, cannot be adsorbed to the nickel alloy and therefore, does not provide the rust-proofing or rust-preventing effect.

Turning to the second criterion, there must be a reasonable expectation that the proposed combination or modification will be successful. There is no reasonable expectation that the water-based ink of Kimura, once modified to include the aluminum tertiary butyl benzoate of Moser, would be successful. Thus, the second criteria for a reasonable expectation of success cannot be satisfied as well.

Lastly, addressing the third criterion, the prior art references, when combined, must teach or suggest all the claim limitations as is required in independent claim 1 and independent claim 4. Kimura and Moser alone or in combination do not disclose a water base ink for ink-jet recording usable for an ink-jet recording apparatus provided with an ink-jet head in which at least a part of an ink flow passage is formed of nickel or a nickel alloy where the water base ink for ink-jet recording includes **potassium p-tert-butyl-benzoate** or a an ink-jet recording apparatus which uses the water base ink for ink-jet recording where an ink contains **potassium**

p-tert-butylbenzoate, a coloring agent which is dispersible or soluble in water, water, and a water-soluble organic solvent; an ink tank which accommodates the ink; and an ink-jet head which jets the ink supplied from the ink tank and which is provided with an ink flow passage, at least a part of the ink flow passage being formed of nickel or a nickel alloy. The Examiner has identified the recited claim elements, i.e., for example, coloring agent, water, solvent in the cited references but, under the law, such an indiscriminate combination is not sufficient to establish obviousness of the invention. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the cited art, Kimura and Moser, and not be based on Applicants' disclosure. As discussed above, the Examiner has not shown that the cited art provides suggestion or motivation to one of ordinary skill in the art to make the claimed combination and in so making one would have the reasonable expectation of success. Stated otherwise, lacking a suggestion or motivation and reasonable expectation of success, Applicants believe that the Examiner selected these references with the help of hindsight[2].

In view of the foregoing, Applicants respectfully submit that the Examiner has not established a prima facie case of obviousness of claim 1 or claim 4 under 35 U.S.C. § 103(a). As a result, independent claims 1 and 4 are considered by Applicants to define patentable subject matter.

Applicants also submit that the Examiner has not established a prima facie case of obviousness of claim 1 or claim 4 under 35 U.S.C. § 103(a). In particular, rejected claims 2 and 3, by virtue of their dependency from claim 1, respectively, are similarly considered by Applicants to patentably define itself over the cited references. Also, rejected claims 5-8, by virtue of their dependency from claim 4, respectively, are similarly considered by Applicants to patentably define itself over the cited references.

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[2] Use of hindsight in the selection of references to establish a case of obviousness is improper. *In re Gorman,* 18 USPQ2d 1885 (Fed. Cir. 1991).

VI. Conclusion

For the reasons presented above, claims 1-3 and 5-7, all the claims pending in the application, are believed by Applicants to define patentable subject matter and should be passed to issue at the earliest possible time. A Notice of Allowance is requested.

Respectfully submitted,

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